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Subject: Environmental Defense comments on Chloroacetyl Chloride (CAC)

(Submitted via Internet 12/23/02 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, MTC@mchsi.com, and cldeford@dow.com)

Environmental Defense appreciates this opportunity to submit comments on the
robust summary/test plan for Chloroacetyl Chloride (CAS # 79-04-9), submitted by the Dow Chemical Company.

The robust summary/test plan for Chloroacetyl Chloride (CAC) was posted on the EPA Chemical Right to Know web site on January 23, 2002, with public comments thereon due on May 23, 2002. Environmental Defense prepared comments on this test plan for timely submission, but discovered in December 2002 we had inadvertently failed to submit them. On December 18, 2002, EPA posted Dow's November 15 response to EPA's August 19 comments on Dow's original robust summary/test plan. We have revised our comments in light of that response.

Our comments at this time focus on two points: (A) the assertion that CAC qualifies as a closed-system intermediate, and (B) other issues.

A. Closed-system-intermediate status. Two issues arise in this context. First is whether CAC as manufactured by Dow qualifies as a closed system intermediate. Dow's initial submission provided some information on the manner in which CAC is produced, stored and used by Dow. EPA's comments pointed out that additional supporting detail is needed, including a process description or flow diagram, and information on wastes generated following manufacture, the chemical's presence in downstream products, and information on processing and transfer by customers; we concur.

In addition, Dow's initial submission notes that there are at two other CAC producers (one US manufacturer and one importer), but does not provide any information relating to whether their production and use is on a closed-system basis. Given the apparent use of CAC in tear gas cited by EPA, the claim of closed system intermediate status appears doubtful; unless Dow is able to provide information demonstrating conclusively that such use of CAC does not in fact occur, any assumption of closed system intermediate is unwarranted.

In its November 15 response to EPA's comments, Dow states that it "appreciates [EPA's] interest in seeking adequate information to confirm that CAC is used as a closed-system intermediate. However, Dow is unsure that it can provide further detail without claiming it as Confidential Business Information (CBI)." Dow asked to schedule a conference call with EPA to discuss the issue further. It is not clear whether the additional information that Dow might provide relates only to its own operations, or

to those of the other manufacturer and the importer as well.

In any event, we are extremely disturbed at the suggestion that non-public information allegedly supporting a closed-system-intermediate designation could provide a basis for negating otherwise-applicable data requirements. This approach is not in keeping with the overall purpose of the HPV program as a chemical right-to-know initiative. At the very least, Dow should make public and subject to review an up-front rationale for and substantiation of the need for confidentiality.

Second, it should be noted that ALL producers (including both manufacturers and importers) must qualify for closed-system status in order for a chemical to be designated as a closed-system intermediate. Thus, even if Dow can provide appropriate documentation that Dow-produced CAC qualifies as closed-system, CAC cannot be designated as closed-system absent documentation that the practices of the other manufacturer and the importer likewise qualify as closed-system.

B. Other issues.

1. The chemical structure should be included in the Description of CAC.

2. A schematic showing the reaction of CAC with water and the resulting hydrolysis products, chloroacetic acid and hydrochloric acid, should be included in the Description of CAC. Further, since, on hydrolysis of CAC, these products are produced in equimolar amounts more emphasis should be given to the toxicity of the combination of products throughout the Test Plan. That is, the Test Plan states that CAC is "believed to be analogous to chloroacetic acid". In fact, CAC is analogous to chloroacetic acid plus an equimolar amount of hydrochloric acid; thus, it must be more toxic, corrosive, irritating, etc., than chloroacetic acid alone.

3. Conclusions presented in the Test Plan, e.g., toxicity to fish, daphnia, algae and microorganisms, are not based on actual experiments with CAC but rather represent an extrapolation of data developed for chloroacetic acid. Although we appreciate the fact that CAC is rapidly hydrolyzed to chloroacetic acid, we consider extrapolation of these data acceptable only if it is made clear that, as discussed in comment #2 above, CAC hydrolyzes to yield equimolar amounts of chloroacetic acid and hydrochloric acid. Thus, CAC is likely to be even more toxic to these organisms than chloroacetic acid alone.

4. Our review of the Robust Summary indicates that CAC has been the subject of only one Ames test. That study was apparently not conducted under GLP and it is not stated if the doses used were toxic to the bacteria. If those data are not readily available, this study should be repeated unless other existing data (such as those identified in EPA's comments) are sufficient for this endpoint.

5. As mentioned above, the Test Plan depends heavily on data developed for chloroacetic acid. It does not, however, mention the fact that chloroacetic acid has been the subject of chronic and other studies by the National Toxicology Program. Results of the chronic study indicate that chloroacetic acid is not a carcinogen and provide other useful data. It would be of interest to include a summary of those study results in the Robust Summary.

6. Unless CAC is shown to qualify as a closed-system intermediate, the adequacy of existing reproductive and subchronic toxicity data should also be evaluated (such data may be available or extrapolatable through the other studies mentioned above). If such data are not found to be adequate,

new tests need to be conducted for these endpoints.

Thank you for this opportunity to comment.

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